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AND

JOURNAL OF

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DEVOTED TO

HORTICULTURE, LANDSCAPE GARDENING, RURAL ECONOMY,
RURAL ARCHITECTURE, POMOLOGY, ETC.

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THE

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PROFIT OF APPLE GROWING.

THE apple is the great standard among fruits, as wheat is among grains, or potatoes among vegetables. Some localities, of course, give better returns than others, but everywhere the apple is looked to for a crop as is the potato, and it depends much on the cultivator's skill in managing and selecting varieties as to the amount of returns. Niagara County, N. Y., is put down this year at 180,000 barrels, and in that county one tract of apple orchard produced for sale 600 barrels of fruit, which sold at $3 per barrel. One tree of Rhode Island Greenings produced *twenty-six* barrels. H. T. Brooks, Esq., at the New York State Fair, during one of the evening discussions, gave, among other evidence of the profits of apple growing, the following:

"A tree in Middlebury gave 11 barrels; four trees in LeRoy, 13 barrels each. Patrick McEntee, of Perry, took 14 barrels of Baldwins from one tree, and sold them to A. W. Wheelock for $60. Mr. True, of Castile, took 15 barrels of Gilliflowers from a single tree. Enos Wright, of Middlebury, sold the product of two trees for $100. Two years ago Mr. Hammond, supervisor of Middlebury, sold the product of 33 trees of Northern Spys for $900. C. Cr akhite sold the apples on less than four acres for $1,000; they were immediately resold for $1,500. He said that Edmund Morris, the admirable author of 'Ten Acres Enough,' who, by-the-by, with the usual consistency of preaching farmers, had added 13 acres to his 'Ten,' wishing to do some tall bragging, had told us of 20 apple-trees that paid their owner $225 one year. Here, said Major Brooks, is a story to match: Robert McDowell, of York, Livingston County, has 22 trees, grafted nineteen years ago to Dutch Pippins, Greenings, Russets, etc., standing 35 to 40 feet apart—his soil sandy loam, annually plowed and cropped, being also heavily manured every year, and protected by woods on three sides. He sold from these trees, after reserving his culls, in 1865, 163 barrels of apples for $779 50.

"Prescott Smead, of Bethany, Genesee County, from six acres, on clay and strong clay loam, sold as follows:

1862	750	barrels	$2,370
1863	500	do.	1,790
1864	600	do.	2,100
1865	810	do.	4,500
1866	150	do.	863
1867. (*estimated*)	600	do.	3,000

"Add to the above, copied from his income report (and reports of this kind are not apt to be overstated), apples used in the family, and we have 100 barrels to the

acre, and 2½ barrels to the tree *annually*, for the whole six years, paying $400 per acre every year for the whole term.

"For practical cultivators there is another fact of great significance. This same orchard, after coming into full bearing for some ten years, received only ordinary care, which means scarcely any care at all, and its returns were very meagre. It was then heavily manured, plowed shallow, and suffered to lie one year; then cross-plowed and harrowed, and suffered to lie two years longer, all the time uncropped; then it was manured again, and the same treatment repeated. The results were as has been stated.

"S. P. Lord, of Pavillion, bought a neglected, and, of course, unfruitful, orchard of seven acres—trimmed, manured, and plowed it, when it immediately commenced bearing, and during the next six years yielded $6,000.

"He recommended careful and moderate annual pruning where necessary, as contrasted with the too frequent slashing to which trees are subjected—keeping the heads of the trees low, which would favor ease in picking—objected strongly to the common neglect of cultivation, and also to the close cropping of the ground, in the attempt to obtain other products from the soil, the strength of which should be given to the trees. He cited cases where good clean culture had given high profits, and added that in nearly every instance where very large crops had grown on single trees, he had found those trees to stand near wood-piles, slop-grounds, barnyards, or on other spots where they received a good supply of enriching material.

WINDOW GARDENING.

Thousands of persons, fond of flowers, are, during a great portion of their lives, confined to the house, even if they have a garden or pleasure ground in which Flora's treasures are growing and blooming. To meet this love of the beautiful and gratify the taste, the common practice is to grow a rose or geranium in a pot upon the window-sill, or a stand near the window. Those who have command of means have had aquarias constructed, but rarely with any satisfaction to meet anticipation. Some time since, the London *Gardener's Magazine* gave a representation of a case constructed in the window by removing the entire lower sash, and then projecting a frame to cover the whole width of the sill, inside and out, raising the lights and curving them until the top met the lower part of the upper sash; the bottom of the case to be made like a draw, showing pancling, to give artistic appearance, and to have its drainage made so that any surplus water that should be given the plants would escape from the outside. In this draw the earth is to be placed, and the plants either set directly in it or they may be in pots, and the draw filled to surround and cover the pots with moss. The cost of construction of this form of window-case would be quite small, and, except in severe weather, it would be no trouble, and mostly out of the way. It should be made, of course, to fit the window, and movable on approach of really cold weather.

Another mode is to have a draw eight or ten inches deep, and projecting into the room four to eight inches, having the sides, or ends rather, carried up as panels next the window, and sash-doors hung on the inside opening into the room. In the draw, pieces of rock and soil are placed, and the plants set among them and trained as they grow up the side or end panel work. The effect of this in the long French window is very good, especially when care has been taken to get plants that are good climbers, and with broad glossy foliage.

THE SERVICE BERRY—PYRUS ARBUTIFOLIA.

From the journal of my son, Henry W. Elliott, during his three years' trip connected with the laying of the Overland Telegraph Company's wire in British Columbia and Russian America, I take the accompanying drawing of the arbutus-leaved aronia, commonly called service berry.

Quoting from his journal, he says: "The mountains and valleys of British Columbia over which fire has swept, consuming all the timber, and leaving nothing standing after its departure, are covered with a growth of young poplars and the service berry shrub, which does not attain any great size, although I have seen them ten and twelve feet in height, but rarely exceeding three and four feet. The berries are ripe in August, and hang on until frost.

Fig. 1.—*The Service Berry—Pyrus Arbutifolia.*

The bears revel among them at this time of year. Millions of bushels ripen and fall to decay."

Loudon says the grafting of the aronia, or service berry, strictly *Pyrus arbutifolia*, on the common thorn, renders it one of the truly ornamental shrubs. Some years since I received from R. P. Fulkerson, Esq., some plants of a dwarf variety of the service berry, which gave a pleasant little fruit; but its want of character on its own roots led me to neglect it, and I have lost it. As a novelty and an ornamental shrub, I notice this now, that our growers may take hold of and introduce it.

F. R. E.

TWO NEW APPLES.

BY F. R. ELLIOTT.

Among the many apples sent me this past season, the following certainly "promise well," and I therefore send drawings and descriptions to be put on record, and to draw the attention of tree planters, that they may obtain and test them in other than their native localities. I am indebted to Mr. George Husmann, well known among fruit men as an energetic, enthusiastic, but careful observer and propagator, for the sample specimens from which my drawings and descriptions were made.

BERGNER.

Originated with G. Bergner, near Hermann, Mo., and is there grown as a profitable market variety.

Tree, a rapid grower, with strong branches, somewhat drooping; hardy, and an abundant bearer.

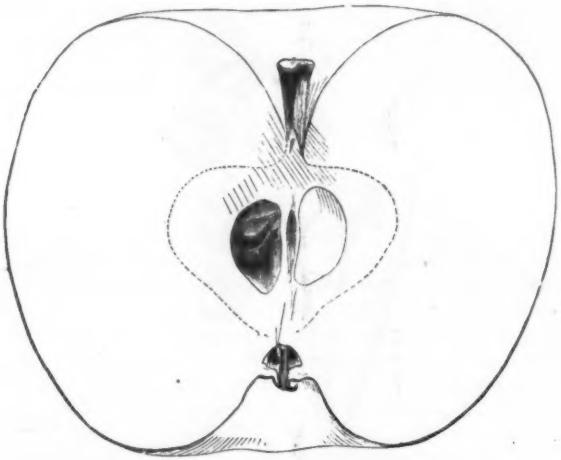

Fig. 2.—*Bergner.*

Fruit, large, roundish, flattened at both ends, obliquely angular. Color, a rich yellow ground, almost entirely covered with clear rich red, and this somewhat striped and splashed with shades of maroon red; near the calyx or bloom end the ground or yellow prevails; yellow, gray, or russet dots and splashes over all. Flesh, yellow, crisp, juicy, sprightly; rich aromatic, slightly quince-like, flavor. Stem, short; cavity, open, regular, deep. Calyx, small, closed, basin shape, deep, very slightly plaited at base. Core, small, capsules well filled with seeds. Season, late winter and early spring.

NAIGILE'S WINTER.

Originated some twenty-five years since with one Charles Naigile, who is now dead.

Tree, an enormous bearer of fruit, which is always smooth and perfect. Growth, upright while young, but as it reaches maturity becomes drooping in its branches,

because of its loads of fruit which hang in perfect "ropes."

Fruit, medium, roundish, flattened at both ends, slightly angular. Color, a bright yellow ground, covered in season with two shades of red, and with many large yellow gray dots. Skin, quite smooth and covered with a clear light blue bloom, which when rubbed off leaves the skin glossy. Calyx, closed, with long segments; basin, open

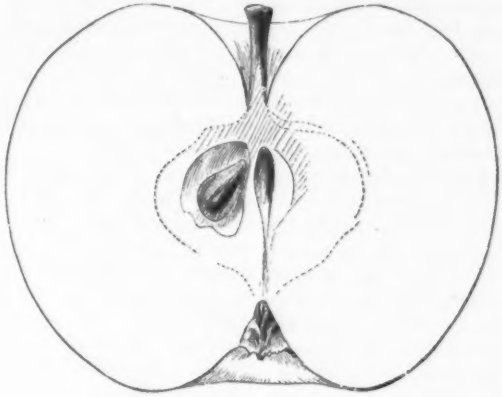

FIG. 3.—*Naigile's Winter.*

rather than moderately deep. Stem, short, slender; cavity, open, acute, or deep, smooth, and regular. Flesh, white, crisp, tender, juicy, mild, subacid, very much like the old Fameuse apple. Core, small, compact. Seeds, plump, broad, ovate pointed. Season, early, and midwinter.

DOUBLE PYRETHRUMS.

OUR readers will remember that during the past year we noticed a fine show of Double Pyrethrums, in colors, which we saw at Messrs. Ellwanger & Barry's, Rochester, New York; and if they have been wise, they have determined that plants shall grace their flower-beds this coming season. The following, from the London *Florist*, describes many new varieties, and tells the whole story:

"Any attempt to chronicle the improvements made during the past few years among the flowers employed for garden decoration would be incomplete without some allusion to the greatly improved forms of the Double Pyrethrum. Only a few years ago a Double Pyrethrum of the section now under notice was a thing unknown. But that patient enterprise that works out so many astonishing revolutions in the world of horticulture has been applied with great success to this flower, and we have now among us a valuable summer-flowering plant for the open ground—one thoroughly hardy, being altogether an out-door flower, and at the same time thoroughly valuable for the embellishment of shrubbery and mixed borders.

"The history of the improvement of this flower is just the simple process that has

worked such happy results in the case of other popular flowers. Received from the Continent by Mr. John Salter, of Hammersmith, in a form suggestive of a much higher order of development, it was at once taken in hand, and by careful seeding, year by year, semi-double flowers became resolved into fully double blooms; increased size both of floret and flower-head followed in the wake of fuller substance, and with these came that coveted variation which always gladdens the heart of the florist—a breaking away into new colors, or combinations of color, even to a much larger degree than was at first reasonably expected. And so, bringing up the 'record of progress' to the present year, the rich and varying beauty of some of these flowers really surprises one who has inspected them, seeing what a comparatively short space of time has been devoted to perfecting them. They are certainly a valuable addition to our hardy herbaceous plants. That they grow somewhat lanky is really no tenable objection against them, as they can easily be tied up to stakes in common with many other herbaceous plants. But it is not improbable that this objection will soon be altogether removed, inasmuch as some very dwarf-growing varieties are now showing themselves in the seedling-beds, in the same way as has been observed among the Antirrhinums for instance, and there is no loss of any good qualities in these dwarf-growing kinds, while their dwarfness is a great gain. They remain in bloom for a considerable time, commencing early in July, if not earlier, and they are even now (the second week in September) in full bloom, as the plants throw out a succession of lateral shoots that become floriferous.

"Then some single-flowered varieties of the Pyrethrum are also undergoing a collateral improvement, though they only bear about the same relationship to the double-flowered kinds that the single Anemone-flowered Chrysanthemums do to the splendid and full double flowers. Still, they are moving along in the march of improvement, increasing year by year in size of flower, in breadth and roundness of floret, and in diversity of color. They are easily propagated; this is another recommendation in their favor. They can be multiplied by taking off cuttings either in the autumn or early in the spring; these should be put into a bed made ready for them in a cold frame, or else be put out on a shady border, and protected by a hand-glass. A good rich soil is all that is required to induce them to root.

"I have endeavored to arrange under certain heads of color some of the showiest and best varieties. Under the head of Carmine and Red may be put the showiest and brightest colors. Of these the following can be well recommended: *Emile Leomine*, a fine continental variety, color deep rosy carmine with bronze center; *Modele*, a fine shade of carmine red, but with a tendency to come single; *Carminatum plenum*, dark carmine; *Fulgens plenissimum*, dark red, a large and handsome flower; *Imbricatum plenum*, bright rosy carmine, the flowers of great size and showy; *Rose Perfection*, a dark but pleasing shade of rosy carmine; *Prince of Wales*, dark carmine shaded with bright red, a striking shade of color, flowers large and full.

"Rosy Lilac and Purple shades will well represent the next section. A distinct purple hue is evidently soon to be obtained, but at present it is somewhat mixed with rose. The most noticeable under this head are *Miss Plinkie* (Salter), new of 1867, pale rosy lilac, with a light center, the flowers large and full, and belonging to what Mr. Salter denominates the Ranunculus-flowered section, inasmuch as the florets forming the center of the head are flat instead of being quilled, as is ordinarily the case; *Lischen*, another continental variety, rosy purple with paler center; *Madame Calot*, deep rosy purple, a very effective shade of color; and *Barral*, a very fine and double crimson purple flower, one of the best of the dark colors.

"Of shades of Rose there are Salter's *Alfred Salter*, vivid rose, a fine flower; *Iveryanum*, bright rose, the flowers large and full (this variety is somewhat dwarf in its habit); *Nemesis*, dark glowing rose, showy and fine; *Paul Journou*, soft rose with light center, another dwarf-growing variety; *Pompon Rose*, a small but good flower of a lively dark rose shade; and *Wilhelm Kramper*, a tall-growing variety, but of a good shade of color—namely, lively dark rose.

"Pink shades are found in the following varieties: *Nobilissimum* (Salter), new of 1867, a very large flower, having broad guard florets of a bright pink hue with a white center, one of the most distinct kinds, and very attractive; *Yolande*, rosy pink, flowers very double, and dwarf-growing; *Carneum plenum*, pinkish blush, flower large and full; *Fascination*, a very pleasing shade of deep pink; *Gustave Heitz*, a continental variety of a pale rosy pink shade with bronzy center, a fine flower, but a somewhat tall grower; *Lady Blanche*, blush, with a distinct rosy tint, very fine; *Miss Talfourd*, bright rosy pink, a pretty and pleasing shade of color; and *Mrs. Dix*, blush, shaded with pale rose, and very fine.

"There is a clearly perceptible presence of something akin to Peach color in a few of these flowers, particularly in *Ariane*, rosy peach, the center lighter, a pretty and distinct flower; *Cerito*, clear rosy peach with sulphur center, a fine flower; and *Pet*, another pretty flower of bright rosy peach shade.

"Shades of Yellow are as yet confined to yellowish sulphur and buff. Of these the best are *Luteum plenum* (Salter), new of 1867, pale yellow, but deeper in color in the center, free-blooming and dwarf-growing; *Nancy*, a continental variety, in color creamy sulphur; and *Sulphureum*, sulphur, with a deeper color in the center of the flower, distinct and good.

"Of White flowers there are *Annie Holborn*, white, with a deep blush center; *Belle Gabrielle*, pure white, with delicate peach center, a fine flower; *Ne Plus Ultra*, blush white, a fine and bold flower; and *Princess Alexandra*, white, with a slight tint of cream, a very fine flower of great depth and substance, and dwarf-growing.

"The following are the best of the single flowers: *Giganteum rubrum*, chestnut red, flowers large and bold; *Kleinholtz*, bright crimson, fine and distinct; *Mons*, glowing crimson, a fine shade of color, flowers large and fine; *Prince Alfred*, purplish crimson, flowers large and bold; and *Sparkler*, bright reddish crimson, flowers very showy, and a fine shade of color."

THE VERGE OF WALKS AND ROADS should always be made as inconspicuous as possible. The less the verge is elevated above the walk, the less we have of harsh line to break the smoothness and harmony of blending from lawn to roadway or flower-bed. Some gardeners seem to think that a strong, harsh line, or verge of two inches deep or more, next the path, is a mark of skill; but to our taste, it is only an exhibit of mechanical labor breaking in upon the softness of nature's own laws, which always resolve into one another without any harsh or offending feature. The verge to a path should rise from the path just as little as possible, if even extra care have been taken to cut each line, sloping underneath, as it were, so that when the roller is passed over it, the line of demarkation will be perceptible only by the change of gravel to turf.

ROLL THE WALKS AND ROADS.—Frequent rolling of the pathways, during winter, is essential to keeping them firm and smooth. It matters not whether they are traveled upon or not, they should be rolled every time when the frost is out of the surface two inches or more.

"THE GRAPE SWINDLE."

From childhood, Mr. Editor, I have been suffering from an incurable attack of vito-mania, and as my experience is not of yesterday or to-day, I may be excusable for clothing my opinions in the drapery of ink. The other day I received a note from an eminent amateur vito-culturist, in which he states that "*the culminating point in the grape swindle has been reached.*"

I, for one, sincerely hope that my friend may be correct regarding the attainment of "the culminating point in the grape swindle;" for a gullible public have been swindled for years by false statements contained in the most beautiful productions of the printer's art. It is amusing, as well as disgusting, to look over the huge pile of catalogues in my possession and read the glowing and transcendental descriptions of trash foisted upon the public by unprincipled parties. In some of these guides the party with $5 to spare for an extra No. 1 plant, with three buds, will find the fair side of the picture with a sufficiency of descriptive falsehood, but not a cloud from the dark side. It seems that these figurative and descriptive gentlemen fancy that

> Man wants but little here below,
> Nor wants that little long.

We are of the opinion that it would be a manifestation of honesty and fair dealing if these descriptive gentlemen would cast overboard their twaddle and stuff, and add to their descriptions of vines—not thoroughly tested; liable to winter kill; mildew in some or most localities; a poor grower; not as hardy as an oak; not the best wine or table grape in America; not equal to the Muscat of Alexandria or Black Hamburgh; in other words, dispensing with the varnish and veneer that deceives a gullible and confiding public, and fills the pockets of designing and unprincipled cultivators.

Yearly we have one or more bantlings sent forth at $5 for a microscopic specimen, with the assurance that it will beat all creation. But, alas! the poor deluded purchasers are the only ones who suffer; for when they test their last dearly purchased pet, they discover that they have little else than a page of adjectives clothed in printer's ink. If we possessed the temerity, we could mention the name of one renowned for his adjectives and transcendental bosh, who has sent out at least one dozen of these wonderful productions, and, strange to tell, not one of them has stood the test of cultivation. Who can estimate the pecuniary loss sustained, or the disappointment incurred by the public through the misrepresentations of this vito-garometer?

We are of the opinion that the period has arrived for at least one vine-grower to publish an accurately descriptive catalogue, giving the dark as well as the fair side. In the event of any honest man being guilty of this meritorious act, we will liberally subscribe toward a statue to be erected in commemoration of the noble deed, so that his name may be handed down to posterity as a public benefactor. We would most humbly and respectfully suggest the propriety of some one of the fraternity publishing an accurately descriptive catalogue, calculated to enlighten and benefit the community—a catalogue giving *in extenso* the faults as well as the good qualities of the vines in cultivation. Such a meritorious individual would make his fortune, for the public would at once award him the title of a fair dealing, honest man, and extend to him a corresponding patronage. Unless some such course is adopted, vine-growers will have to "hang up de fiddle and de bow," and engage in stock jobbing, or some such employment, where they can find a sufficiency of dupes. Americans are a gullible people, and run away with some mania for a time, and designing and unprincipled parties are ever ready to take advantage of their weakness. The

mania followers consent to be sold for a time, but ultimately fly off at a tangent, becoming deeply prejudiced against everything savoring of their defunct pet. We have been credibly informed that vine-growers are clothed in sackcloth and ashes, lamenting the want of customers, and that some of the leading landmarks among them have already reduced their prices fifty per cent. This was to be expected; and we predict that Extra No. 1 two-year-old vines, equaling Hamburghs and Muscats in flavor, will be plentiful and cheap in the autumn of 1868.

The vito-mania has reached its "culminating point," and unless vine-growers adopt a different course, the cultivation of the vine in the United States will receive a check from which it will not recover until vine-growers and their bantlings go where—echo answers where? With all due deference to the staff editorial as well as authorial, we have an inkling that they are, to a certain extent, censurable for giving undue prominence to new and unfledged bantlings; but as we are touching upon sacred ground, we must refrain from giving particulars.

Now, sir, as a guide for the uninitiated, I sometimes fancy that amateurs who "have no axes to grind" should publish the results of their experience and observation, and thereby benefit those who are exposed to an attack of vito-mania. The masses want a vigorous growing vine that will produce fruit of a fair quality, that will flourish in favorable as well as unfavorable circumstances, never mildew—never requiring an expenditure for sulphur or sulphurating bellows, and last, though not least, standing our winters without protection, leaving the new-fangled bantlings of unprincipled venders for the experimentation of vito-maniacs like the writer.

I will as briefly as possible give my experience during the last summer. My situation is elevated; exposure, good; soil, light sandy loam; subsoil, light, with perfect drainage; number of vines under cultivation, about two thousand; number of varieties, too numerous to mention.

Mildew appeared on the vines in the order as named: Iona, Rogers' 5, 15, 19, and 25; Israella, Delaware, Adirondac, Creveling, Maxatawney, Allen's Hybrid, Lydia, Alvey.

The only varieties that entirely escaped mildew and produced a vigorous growth were the Concord, Hartford, Christine, Clinton, Ives, and Arrott. Our advice to the uninitiated, based upon some observation and experience, is—If you want fruit for your families, plant Concords and Hartfords; if you want fruit rivaling the Muscat of Alexandria and Hamburgh, erect a cold grapery and plant Muscats and Hamburghs; but if it is desired to waste money, buy the last bantling sent out by some designing vine-grower, and patiently await disappointment and vexation.

AL FRESCO.

HORTICULTURAL CLUBS.—It is surprising what an amount of information can be had when a neighborhood forms a club to meet weekly and strike their brains together—each telling of his successes and failures, his modes of culture, etc.—resulting in ideas and thoughts heretofore entirely new. We know several such clubs, or weekly gatherings, and suggest to all our readers that they should, one and all, form or join one. Take the district school-house for the meeting, if no better be had, or meet weekly from house to house of the members. Organize with a president and secretary, a business committee, and conduct the deliberations in parliamentary order, and our word for it you will be gratified and astonished at the results—at the amount of information which will accumulate in your secretary's books.

UTTER APPLE.

We have received specimens of this fruit from T. D. Plumb, Esq., of Madison, Wisconsin, who describes it as a very popular variety at the West, where known, and is thought to be as valuable there as the Baldwin is in the Eastern States. The specimens sent us were picked from a tree overloaded with fruit, and are, consequently, smaller than if the fruit had been properly thinned. A specimen of last year

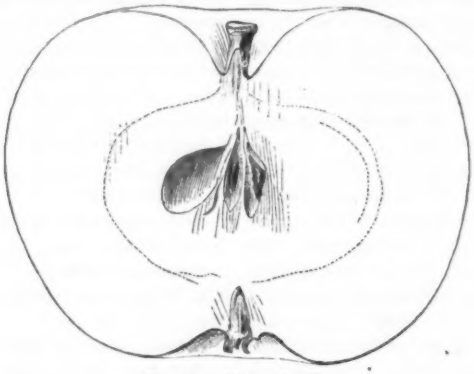

Fig. 4.—*Utter Apple.*

weighed 11½ ounces. Tree, a regular bearer, and hardy in all the Northwestern States. Our description is as follows:

Fruit, medium size, globular flattened; color, pale lemon yellow ground, narrow stripes, and mottled with light clear red, the stripes showing deepest—scattered raised small russet dots; stem, slender, short; cavity, open, smooth, deep; calyx, closed; segments, narrow, pointed; basin, broad, open, deep-furrowed; flesh, whitish, crisp, tender, juicy, mild, subacid, pleasant, but not rich; core, medium; seeds, globular pointed; early winter or late fall.

ABOUT PEACHES.

BY F. R. ELLIOTT.

"When I came to this country, some twenty-five or thirty years since, the failure of a peach crop was the exception, not the rule. Now it is reversed, and I feel very much like cutting down my trees, or, at least, not planting any more."

Such is about the burden of remarks by many fruit-growers in different sections of our States, and, without presuming to assume that I know the cause, I feel that the peach is too good a fruit to be given up, and too profitable a crop, where successful, not to have many planters of it by the hundreds and thousands of trees. The record of successful fruiting, or rather of fruiting at all, the past season, covers a pretty large territory, but not at all such as it should; and many sections where, heretofore, in early days, peaches were counted as a sure annual crop, have this season produced but very few. In my section of country the peach blossomed abundantly, and set its fruit; but shortly after we had a cold wind for a day or two, and immediately thereafter the curl of leaf attacked nearly every tree. Many varieties, as Hale's Early, Early

York, etc., all, in fact, of the white-fleshed peaches, were so injured, and the trees so long in regaining a new foliage, that their fruit mostly dropped before becoming half grown. Native seedlings also were as much affected as budded varieties, and only the strong, vigorous growing, yellow-fleshed sorts, such as Crawford's Early, Smock, etc., recovered in time to renew circulation and retain their fruit for maturing. The size of the fruit was, of course, small, owing to the unprecedented drought.

Some sections of the New England States have this year produced a better crop of peaches than for four or five years past, while from the South—Delaware, etc.—the New York market was abundantly supplied; but either from the excess of rains on the Atlantic coast this season, or some other cause, the size and quality of the fruit may be said to have been poor. New Jersey, a State from which usually large quantities of fine peaches are sent to market, this season gave very few really good fruits, except some of the late ripening yellow varieties. Westward, in Ohio, while, as I have said, the crop in the northern part of the State was pretty much destroyed by the curl and long drought, the high or hill lands of many sections in the southern central part gave large crops and very much of fine fruit, although the drought measurably affected its size. Farther on, in Illinois and Missouri, peaches were abundant, and many of them very fine, while the crop at St. Joseph and along the shore of Lake Michigan was perhaps quite sufficiently abundant to be satisfactory.

These statements, while showing the peach a paying crop in certain locations, when reconsidered, and the extent of orchards and gardens estimated—where trees are plenty, but no fruit—presents a very poor show for the peach as a fruit for general cultivation, which it has ever been considered. Why this failure from year to year, now, in sections where once the peach was a sure annual crop, becomes a question of great importance to fruit-growers and the people at large, and should have careful attention and examination.

The loss of the forest, and consequent change of climate of many sections, is doubtless one of the causes of failure; but this is perceptible in the buds which are destroyed by cold; but when the buds are *apparently* uninjured, why is it that after blooming we yet get no fruit? May it not be that while the bud retains sufficient vitality to enable it to bloom, yet the extremes of cold have so much injured the wood, as well as bud, that death ensues ere full health of the tree, from renewed sap, is reached? May we not prevent the curl, as well as the destructive agency of late spring frosts, by keeping small fires of some old litter burning at the windward side of our trees during, say, a period of four weeks from the time of blooming? Will it not pay in small grounds to have our trees worked on the plum stock and trained by summer pruning, so as to create a more firm and hard wood to the peach, induce earlier ripening of the wood, and thus, perhaps, a greater amount of vitality in the bud, enabling it better to endure severe cold? Annual shortening or pruning of the peach, as originally taught by Downing, is a rare feature found in peach-tree growing; but if this were pursued from the first year, would it not give more strength and endurance, by reason of condensing the sap. If the tree be grown on the peach root, would not pruning away all the leaves and wood that are found immature—say about the 1st of October or just before severe frosts occur—serve to make the tree better capable of resisting climatic or other injury? The introduction of dwarf growing varieties may possibly be found valuable as pet trees for small gardens of amateurs, but they will never serve to fill the mouths of the hundreds of thousands of people in our cities; nor have I any great faith in the trailing system of growing, because I fear its practice will not give fruit enough to supply the masses at a price which they can afford to pay.

PROPAGATING PLANTS BY GRAFTING.

BY A. S. FULLER.

GRAFTING is governed by the same physiological principles as budding.

There must exist an affinity between the stock and cion; if not, a permanent union is impossible.

With some of the modes in use, the operation of grafting is very similar to that of budding, but with this important difference —that in grafting, a larger section of the plant to be propagated is used than in budding; besides, it can be performed upon a great variety of plants while they are dormant.

The art of grafting is one of the most ancient methods known of multiplying individual species and varieties of plants; still there is scarcely one person in a hundred who sufficiently understands the process to put it into successful practice. The same thing may be said of all the most common methods of propagating plants, oft-repeated but seldom learned by any considerable number of people of any one generation.

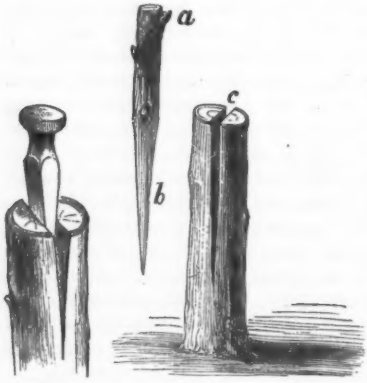

FIG. 5. FIG. 6.

The implements used for grafting are: a small saw, for cutting off the heads of large stocks or branches of trees; a good, strong knife, with a thick back, to make clefts in the stock; a small knife, to prepare the cions with; a wedge, grafting

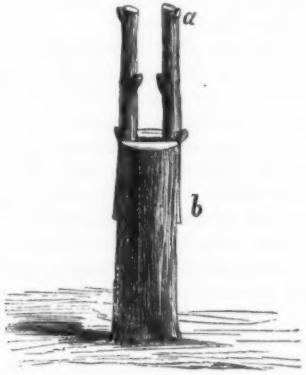

FIG. 7.

chisel, and a small mallet. The above-named implements are often made of peculiar patterns, to suit the fancy of the operator; but the chief aim is to have the work well done. Other kinds of implements are used for performing particular modes of grafting, of which I shall have occasion to mention as the different methods are described.

In addition to these, bass strings, such as used in budding, for tying in the grafts, and grafting-wax, to cover the wounds and protect them from the air and water, are necessary.

There are many kinds of grafting-wax in use, as well as other compositions, which answer the same purpose. A composition made of clay, fresh cow manure, and cut straw was the principal material used in grafting until the present century. It was prepared as follows: Take a quantity of

good strong clay and some fresh cow manure, add sufficient water to make it the consistency of thick paste, add a little fine cut hay or straw; if a little salt—say one pint to the bushel—is added, it will assist it in retaining moisture. This composition should be made several weeks before it is wanted for use, and be thoroughly worked over as often as twice a week, until used, for the more it is manipulated the better. This composition is but little used at the present time; but there are a few nurserymen who prefer it for some kinds of plants to the more modern grafting-wax. There are many different kinds of grafting compositions recommended in the various works on gardening, which proves conclusively that the exact proportions of materials, or, in fact, the materials themselves, if of like nature, are not very essential to success. About a hundred years ago, a composition made of the following materials was considered most excellent, if not the very best: 1 lb. pitch, 1 lb. rosin, ½ lb. beeswax, ½ lb. hog's lard, ½ lb. turpentine—melted and well mixed together. While in a liquid state it was spread upon thick tough paper or thin muslin; after it had become cool, the paper or muslin was cut into narrow strips of any required size, and then answered the double purpose of strings to hold the graft and for excluding the air and water from the wounds. These waxed strips are in common use at the present day in grafting small stocks of fruit trees and other kinds of woody

Fig. 8.

plants. For grafting in the open air, the following compound is probably in more general use in this country than any other: rosin, four parts; beeswax, two parts; tallow, one part—melted together; and after it has become cool it is applied by hand, or when in a liquid state it may be applied to paper or muslin. If it is to be used in very cool weather, then add a little more tallow. Linseed oil is sometimes used instead of tallow, in the following proportions: rosin, six pounds; beeswax, two

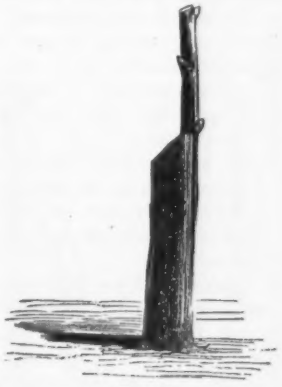

Fig. 9.

pounds; linseed oil, one pint. Judging from my own experience, I consider tallow much preferable to oil, and I would warn the novice against using indiscriminately the different kinds of oils, as an occasional inexperienced person has done to his loss. Gum shellac, dissolved in spirits of ammonia or alcohol, collodion, etc., are sometimes used, but not so generally as the compositions already named.

In all the different modes of grafting, great care should be observed in having the external surface of the wood of the stock and cion to be exactly even—no matter whether the external surface of the bark is even or not. This allows the new cells, which form between the bark and wood of both stock and cion, to unite and form a channel, through which the sap can readily pass. The sap ascends through the wood of the stock into that of the cion (graft), causing the leaves to expand, which, in their turn, assimilate it, preparatory to its return, as stated in a previous chapter.

The time for grafting most kinds of woody plants in the open air is in the spring, just before or at the time the sap begins to liquefy, varying the time to suit the different species, for experience has demonstrated that there are some which may be operated upon much earlier than others. It has also been discovered that the small branches of even the most hardy trees are often injured by severe cold weather; therefore, when these are wanted for cions, it is best to take them from the parent stock in autumn, soon after the leaves have fallen, and preserve them in earth, charcoal, saw-dust, moss, or some similar material, where they will be cool—not frozen—and just sufficiently moist to prevent shriveling.

Cions of ripe wood may also be cut at the time they are used, but their vitality is often weakened by the severity of the weather, and the delicate tissue injured to such an extent that it will not form what is termed in grafting granulation (although it is precisely the same as the callus on

FIG. 10.

cuttings), which fills up any small interstices that may exist between the stock and cion, allowing a communication between. Wood of one season's growth is preferable for cions to older (except in rare instances), and it should always be firm and fully matured, and selected from the most healthy and vigorous branches. The following are some of the most common methods of grafting:

FIG. 11.

FIG. 12.

CLEFT GRAFTING.

This method is principally used upon large stocks or on the branches of old trees. The stock is first cut off at a point where it is desirable to insert the cion; it is then split with a large knife or chisel—being careful to divide the bark, at the same time leaving its edges smooth. When the knife is withdrawn, an iron or hard wood wedge is inserted in the center, or at one side of the stock, as shown in fig. 5; the cion is then cut in the form of a wedge (*b*), and fitted into the cleft (*c*), fig. 6; the wedge is then withdrawn, and the elasticity of the stock will hold it in its place. Grafting-wax is then wrapped around the stock, entirely covering the wound. When the stock is an inch or more in diameter, two cions may be inserted, one on each side—the operator being careful to place the external surface of the wood, not bark, of both cions and stock

exactly even; at least they should meet at some one point; and to make sure of this, the grafts are set inclining inward, as shown in fig 7—*a*, the upper portion of the cion; *b*, the lower end. The cion may be two or three inches long, containing one or more buds. Fig. 8 shows a cross section of the stock and cion inserted. The bark on the cion, as will be observed, is much thinner than that on the stock; but this is of no consequence, provided the edges of the wood are even.

SIDE GRAFTING.

One form of this method is only a modification of cleft grafting—instead of splitting the stock, the bark is divided from the top of the stock downward for an inch or two, and then lifted slightly, as in budding; the cion is pared thinly on one side, and then inserted under the bark of the stock (fig. 9), as it is necessary that the bark of the stock should be separated from the wood. It is evident that this method of grafting must be deferred until

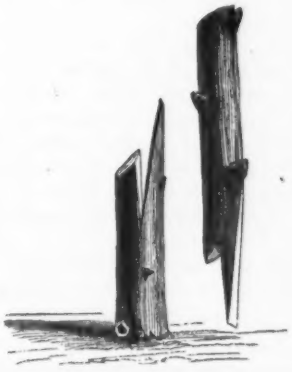

FIG. 13.

the sap starts in spring. Another method of side grafting is shown in fig. 10. The cleft in the stock is a triangular incision, cut with an implement made expressly for that purpose—(fig. 11). The lower end of the cion is made to fit the incision, and then carefully fastened in its place with strips of waxed cloth.

SADDLE GRAFTING.

Saddle grafting is seldom practiced, except upon small stocks or upon the terminal shoots of young trees. The stock and

FIG. 14.

FIG. 15.

cion should be nearly of the same size, although the stock may be a little larger, without making any material difference in the result; the two sides of the stock are cut off in a sloping direction, forming a wedge, as shown in fig. 12; the lower end of the cion is split, and the sides trimmed away so that they shall fit upon the stock. Young apple and pear trees of three or four feet in height are often grafted in this manner. If the stock is larger than the cion, it is only necessary to have the cion fit one side, the same as in cleft grafting, afterward inclosing the exposed surface of wood with wax.

Sometimes the saddle graft is so modified that it is intermediate between the cleft and saddle, as shown in fig. 13.

Another form of saddle grafting, introduced by Mr. Thomas A. Knight, of Eng-

land, in 1811, is shown in fig. 14. Mr. Knight says: "That is never attempted until the usual season of grafting is passed, and till the bark is readily detached from the alburnum. The head of the stock is taken off by a single stroke of the knife obliquely." The cion should not exceed in diameter half that of the stock; is then divided longitudinally, about two inches upward from its lower end, into two unequal divisions. The stronger division of the cion is then to be pared thin at its lower extremity, and introduced, as in crown grafting, between the bark and wood of the stock, and the more slender division is fitted to the stock upon the opposite side. The cion consequently stands astride the stock, to which it attaches itself firmly upon each side, as in the other modes of saddle grafting.

SPLICE AND TONGUE GRAFTING.

When the stock and cion are nearly of the same size, splice grafting is the most convenient and certain method known. The stock is cut off with an upward slope, making the exposed wood perfectly smooth; a cion of two to four inches long is cut off with the same slope as the stock, and fitted to it, being careful to have the wood and bark on one side fit exactly.

Tongue grafting differs from the above only in one point, viz., a small cleft or split is made in the stock and cion, about midway on the slope, forming a tongue on both; these are then inserted, one into the other, which will hold the cion firmly in its place. Fig. 15 shows the operation as completed—*c*, the stock; *b*, the cion; *a*, bud on cion—the union being formed by what sometimes is termed a tongued splice.

[TO BE CONTINUED.]

CIDER.

BY W. F. HEINS, PATERSON, N. J.

UNDER this name a variety of mixtures are sold and drank in large quantities—many of which are quite unwholesome, and soon show their ill effects upon the digestive organs. A good and pure article of cider requires but little labor in its manufacture; and if the following directions are heeded, many can enjoy this truly excellent beverage.

The apples are gathered before they are fully mature, and placed in a cool, dark room, upon dry straw, for about a week before use. I then take two thirds tart and one third sweet apples, rejecting carefully any that have appearance of decay; put them in a tub of water, to free them from dirt and impurities; then grind them to pulp. To avoid particles of fruit getting into the juice, a clean, coarse bag is put into the press to receive the pulp. Fill the receiver with pulp, close the bag, and apply the screw gradually until the juice ceases to run freely. After waiting five minutes, apply strong pressure, and press all out. For barrels, those used for whisky or alcohol answer well, if cleaned thoroughly with boiling water, and while still moist sulphurated by hanging into them a tape dipped in melted sulphur, lighted and allowed to burn out. The tape should be about five inches long, and

FIG. 16.

attached to the underside of the bung by a wire hook. The barrels should be placed in an airy and cool cellar, on skids,

and are then ready for the reception of the juice as fast as it comes from the press. When full, the holes are closed with corks, in which are inserted glass tubes of an inch in diameter, and of the form shown in fig. 16, made air-tight at their insertion by sealing-wax. A cup, or other vessel, filled with water, is placed under the free end of the tube, which should be covered by the water at least one and a half inches. Fermentation will soon begin, and violently at first. The water in the cup must be replaced as evaporation takes place, and care taken that it never gets below the end of the tube, to prevent air coming in contact with the liquor in the cask. The tubes are not removed from the casks until the bubbling in the water cups entirely ceases, which is not sometimes for many months, or even until spring. I prefer to keep the casks in this condition until that season, when the time for drawing off the cider arrives. The nearly clear liquor is then drawn off—carefully avoiding shaking the casks—into new ones cleansed and sulphurated as before filling the casks full. To have a supply, to keep the barrels continually full to the bung, which is a matter of the first importance, some of the cider is put into small casks, turned over, that the contents may cover the bung, to prevent acidity. During the following autumn, about the end of October, the cider is again drawn off into prepared barrels kept always full, and in the following spring it is ready for bottling, and will keep for years. I have now some that is three years old, perfectly clear and of excellent quality.

If from any cause the cider should not be clear, draw off the best portion into a clean cask; then dissolve one ounce of Russian isinglass in enough warm water to cover it, and when cold, add to it one pint of the cider; pour all into the cask, and shake thoroughly. In about two weeks the cider will be found clear, and all sediment at the bottom.

The pulp from the press should be put into open vats, the press and bag carefully cleansed, and the water added to the pulp, which may be half its bulk—the whole placed in a warm room, and stirred frequently until it becomes acid; then press the whole and put into vinegar barrels. In a few weeks it will become good and pure vinegar. Gauze put over the vats and bung-holes of the barrels will prevent the entrance of insects. After the vinegar is acid enough, the holes may be closed.

Very valuable discoveries have lately been made by a French savan, L. Pasteur, proving that fermentation in wine is caused by a microscopic plant or fermental particles, which are destroyed by heating the liquid to 100° to 250°.

I shall make careful experiments, according to these discoveries, and report, as we may find a simple process of preserving cider and light wines for many years.

Our Southern Horticultural Friends.—In the address delivered by Hon. Marshall P. Wilder, before the recent meeting of the American Pomological Society, at St. Louis, occurs the following passage, which we most heartily indorse: "Let us hope that our association, whose art is pre-eminently one of the arts of peace, may have a part in this glorious work of thus binding our nation together with indissoluble bonds of brotherhood and love. Let us trust that, with that skilled, intelligent, and instructed labor, which is indispensable in any branch of horticulture, pomology shall make such progress throughout our country, that soon our meetings may be held in the cities of the South; and that, to them, to add to the fruits of Northern climes, men shall come up, like the searchers of the promised land of old, laden with grapes, and pomegranates, and figs."

WHAT IS THE MATTER WITH THE GRAPES?

Some ten years ago, the rapid increase of an affection in our choice pears, which caused the fruit to become cracked and spotted, attracted the attention of cultivators to the probable cause of the deterioration. Various and vague were the conjectures which were hazarded by those who do not wish to be found unable to explain any horticultural problem, however abstruse. After some experimental attempts, it was finally admitted, though not without reluctance on the part of some who had committed themselves to certain opinions, that the cracking of the fruit of such varieties as the "White Doyenne" (or Virgalieu) is caused by the attack of a parasitic vegetable growth entering the tissues of the leaf and fruit, and known as a species of fungus. Gradually other maladies, attacking plants and trees, were found to be of the same nature and to belong to the same order of vegetable growth.

Latterly, much has been written and suggested on the subject of the diseases which infest the grape in vineyard culture; but we meet unfortunately with the same vague generalization on this branch of vegetable pathology which was current on the subject of the pear. The object of the writer of this communication is to ask if there is any definite means within the reach of American cultivators to ascertain, with some degree of certainty, whether the opinions respecting the diseases which are so commonly referred to as infesting the grape, are worthy of the attention of those interested in the matter? It is presumed that this is a legitimate inquiry in a magazine like the old Horticulturist, which has done so much in times past to elucidate the difficult points of culture.

Furthermore, it appears to be within the scope of some of the numerous organizations throughout the country, devoted to the promotion of fruit culture, to take note of the want of reliable precise knowledge on the subject of such diseases as the "rot" or "spot" in the grape.

The disease known as "black knot" has, after much discussion and variance of opinion, been accepted by many as a form of parasitic fungus, and an article in the *Journal of Horticulture* speaks of it as such, and describes the identical species to which it is assigned, without any apparent hesitation. We want a similar and equally pronounced statement as regards the "spot," which is so common on the berries of our grapes. If it be a fungus, the mycologist can readily determine the fact. In conclusion, permit me to remark that in view of the great interests embarked in grape culture, it would be worth the attention of the agricultural authorities at Washington to invest a little of the public funds in a good microscope and a machine to make some accurate observations with the same. I hope no unfair insinuations will be offered as to the motives for this suggestion.

"Fungus."

American Writings Going Abroad.—We notice one of our enterprising fruit-growers and nurserymen, F. K. Phœnix, of Illinois, is writing his knowledge to the London *Journal of Horticulture*. The west of the United States is full of horticultural knowledge, and our old-country friends will find the writings of many fruit-growers in the Western States to embody fresh and lively thoughts, although sometimes, perhaps, a little wanting in the making up, by reason of lack of experience.

EDITOR'S TABLE.

To Contributors and Others.—Address all Communications, for the Editorial and Publishing Departments, to F. W. Woodward, 37 Park Row, New York.

Protect the Crowns of Trees.—Experience is a good teacher, and it has taught us that the action of severe frosts, followed by rapid thaws on the surface roots and crowns of trees, creates very great injury, often resulting in death. We have known trees healthy on approach of winter, and the same when dug in spring; we have found them with all the top and the lower roots uninjured, but the crown and surface roots entirely blackened and dead. This is often a result with grapevines—in fact, we have seen hundreds of vines exhibit this condition. During the past autumn we have repeatedly urged the earthing up to the crowns of trees and plants, with a view to prevention of this result. We now say, look over your trees carefully, and if you have not turned the earth toward them, thus covering the surface roots and crowns two or three inches deeper than their position during the growing season, you should now do it by a mulch of some sort. In the forest, Nature herself performs this act by the dropping of the leaves; but in the open ground, unless the trees stand in turf, and the fall growth of grass is left, no such protection is had. Surface-rooting plants, such as the quince, Paradise apple, etc., and all newly-planted vines or plants, suffer greater injury, because of the greater number of surface roots than older or stronger rooted plants; but all are affected, and the severity of the winter and number of changes of frost and thaws will tell the result the next season—sometimes in enfeebled growth, sometimes in complete death.

Soil for Lilies.—In the ordinary prepared soils of eight inches deep, for the Japan lilies, the growth of flower stems varies from eighteen inches to two feet in height; but where the ground is prepared some eighteen inches deep, of rich soil and drained, the flower stems rise to four and five feet, and with proportionate increase of flowers. Lilium auratum has been grown with stems nine feet high, and having nineteen perfect flowers upon it, some of which have measured one foot in diameter.

Fruit that, by any oversight or neglect, gets frozen, if kept perfectly dark until the frost is extracted, will be but little injured.

Apples or pears should be carefully looked over at this season of the year. Take away all specked or rotten ones, and wipe the others with a *flannel* cloth. If possible, dry the inside of the barrel or box before again filling it with fruit.

Winter Pruning.—We do not advocate winter pruning, because we think the wound made by the cut at this time more liable to dry, and crack, and open, exposing it to water lodgment, as well as to harden at the edge, more than when performed early in autumn or just as the sap starts in spring. If, however, winter pruning has to be done, the operator should select a time when the temperature, if possible, is above freezing-point, and in the middle of the day, and even then we would never cut away any large or strong limbs at this time.

Ohio State Horticultural Society.—The annual winter meeting of what has heretofore been known as the Ohio Pomological Society was held at Sandusky the 3d, 4th, and 5th of December, 1867. The show of fruits was not numerous, nor the specimens large, but there were one or two new sorts exhibited, descriptions of which are promised us for a future number. The welcome address was made by D. C. Richmond, Esq., a well-known and successful fruit-grower near Sandusky. In his address, referring to the grape, he estimated the quantity of acres now planted in that vicinity at 3,000, and the product in gallons of wine this year at 250,000. This, in addition to the hundreds of tons of grapes which have been shipped away for table use. We think his estimate of acres below the reality.

The discussion on fruits was taken first on the apple, during which no specially new item of practice or opinion was brought out. Grapes next came up, and were pretty thoroughly handled, so far as the value of varieties may be considered.

The Martha, a comparatively new white grape, Mr. Meehan regarded as being "as fine a grape as he ever tasted." The Mottled was spoken of most favorably by all—Mr. Kelly, of Kelly Island, saying he should plant all he could get of it, as it was a very hardy variety, ripening earlier than the Catawba, and as good for wine, which he regarded as good enough. The Iona got the cold shoulder from nearly all, except Mr. Bateham. The Delaware was spoken favorably of, and especially for rich clay soil.

The Lorain, a new white or amber-colored grape, was shown by Mr. W. Z. N. Barney, and much admired. The bunch of this grape is quite long—eight to ten inches; its berries round or roundish oval, attached by long peduncles; color, a light amber or creamy white; flesh, with a little pulp, with a sprightly pleasant juice, not very rich or sweet, but one that will please the taste of most all, and especially those who like delicacy. The skin is rather thick, but has no astringency. We believe it has been but little disseminated, but probably it will be sought for by all amateurs as soon as the grower offers it for sale.

The Telegraph or Christine grape was regarded favorably as a variety for early market. Black King, Rentz, and some others, got their just deserts as of no special value.

Cynthiana was reported by Mr. Lewis as having given a must this past season in Mr. Husmann's grounds as high as 119, while the Norton weighed 115, Oeschle scale.

Rogers' No. 1 was reported by one member as having been received from the Agricultural Department garden at Washington, and in fruiting proved a dark red grape—an error, as the true No. 1 is rarely more than an amber pink.

Rogers' 5 was by Mr. Campbell spoken of as one of the best, while Dr. Warder regarded it as second-rate, adding, also, that he did not regard any of the Rogers grapes as at all desirable.

Rogers' 15 was well spoken of—Mr. McKelvey saying that Mr. Bogen, of Cincinnati, an experienced grape-grower and wine-maker, regarded it as the "best wine grape in America."

Rogers' 39 was also well spoken of, and so of 4, 19, 3, 9.

Pears, peaches, etc., had little or nothing said respecting them.

The name of the Society was changed from Pomological to Horticultural, as more likely to interest a greater number of people, and as, perhaps, more consonant in name with the actual doings of the Society. The usual elections, committees, etc., were made, which hereafter we may have occasion to refer to.

Mice.—"A stitch in time" is an old saying; and a careful examination around trees, from time to time, at this season of the year, will often prevent depredations of mice and injury to the trees.

MARÉCHAL NIEL ROSE.—This rose, which commanded so many words of favor last season, and induced many to purchase, is said, by a writer in the London *Journal of Horticulture*, to be, as recorded, a beautiful rose, when the *true* one is obtained; but he says there have been two roses sent out under that name, one of which gives few or no flowers, and is different also in its foliage. We quote:

"Maréchal Niel Rose was raised by a young gardener named Pradel, somewhere in the south of France. M. Eugène Verdier, of Paris, became the possessor of the stock, or original plant. It is said that Pradel sent to M. Verdier two seedlings without distinguishing them. In the belief that both of these plants were of the same kind, propagation was proceeded with from them indiscriminately; hence arose the confusion, for which M. Verdier is responsible, if not to blame. Be it as it may, great annoyance has been felt, and it is but due to the public that some explanation should be offered to clear away the uncertainty at present existing. Should this statement be even an approximation to the truth, it will be quite evident that our nurserymen are quite free from any blame attached to the distribution of the wrong kind. It will also be remembered that the manner in which Maréchal Niel was first sent out was not altogether unobjectionable.

"The pseudo Maréchal Niel may be distinguished from the true one by its habit, foliage, and flowers. The habit is less robust and more straggling; the foliage of a deeper green, resembling that of Isabella Gray; the leaves smaller and more pointed; the flowers are smaller, hard in opening, but when open of a deeper yellow, but in no point so good as the right variety.

THE ELDER AS A HEDGE FOR SCREENS.—The elder, *Sambucus*, is well known, and to describe it would be useless. What we now want to suggest is, that there are many places where it may be grown and trimmed as a hedge screen plant, and at the same time produce a quantity of flowers and fruit valuable as medicinal or esculent matter. Deep, rich, moist soils suit it best, although winter occasionally kills its strong, coarse shoots when left to itself. We have found that by annual summer pruning we keep it in check, and during the winter only a few of its weak terminal shoots die away. There are several varieties of the elder, and a hedge formed of the varieties when in flower or fruit would be really a beautiful feature to any grounds.

PEARS ON MOUNTAIN ASH.—A Western correspondent writes us that he "has pear trees on mountain ash roots, or stocks, planted since 1848, and that they prove successful." We have no doubt of the mountain ash proving a good stock for some varieties, and especially is it a good stock for sandy or light soils, where the quince roots do not thrive freely. The objection to the mountain ash is its too great liability to be attacked by the borer *saperda*. We know a number of pear-trees, budded on mountain ash, now planted some twenty years, and they are healthy, apparently, and productive. If we recollect aright, some twenty-five years since the mountain ash was advised as a stock to grow the pear on in light soils by such growers as Manning, Ives, and others.

CUPRESSUS LAWSONIANA OCHROLEUCA.—This is a new variety of the beautiful Lawson cypress, having its foliage completely gilded with golden yellow.

LILACS FOR FORCING.—There are, perhaps, no more satisfactory plants to force and produce abundance of fragrant blooms than the common lilac. Plants may be cut out of the shrubbery, potted, and brought into the house, flowered, and again turned out in early June, without any loss of plant or the group of shrubs, except the item of flowers in spring.

CUTTING FLOWERS IN THE GREEN-HOUSE.—A few days since we were visiting a gentleman who has a fine green-house and conservatory, well stocked with plants in healthy condition, under the charge and owing to the skill of an intelligent gardener. Flowers were in profusion in the hall, drawing and dining room, and in discussing their beauties, and merits, histories, etc., an expression broke out from one of the ladies much after the following: "All these flowers are beautiful, but to me there is more in the pleasure of gathering myself; in being able to cut and pluck my own, when and where I will, than in all their beauty when gathered by the gardener. As it is, we might just as well buy them at a commercial shop as to have a green-house of our own, and yet be at the beck and direction of the gardener." Our reply was: "Madam, we acknowledge the principle of independence as a desirable one to be possessed, but in all relations of life it may be said that we show that principle as much by our regard for it in others as by an absolute demand for its respect in ourselves. In this matter of your gardener, who declines to permit you to cut when and where you please, in your own green-house, let us think one moment of the reasons that induce him to make the restriction of which you complain. Let us remember that you employed this gardener because of his acknowledged skill and knowledge of plant culture; without such reputation you would not have taken him to your service. Now, let us remember that you have placed these plants, from which come the beautiful flowers before us, in his care; that, imbued not only with a knowledge of their habits and wants, but also with almost as much of natural love for each plant as you have for your children, because they owe their life and beauty to his daily care and watchfulness, he must naturally lose all heart, all interest in them, if they are mutilated at the fancy of another. Left to his own guidance and care, to his own pruning, etc., they are also dear to him, as a proof, to all who visit your house, of his skill and knowledge in culture, while at the same time they redound to your credit as their owner. The pruning away of one limb carelessly will sometimes destroy the beauty of a plant for years, while the destruction of numerous buds, in the gathering of one flower, by careless cutting, would soon reduce the abundance of flowers in your parlors and boudoirs. We have never known a gardener unwilling to cut a flower to please the employer when such flower was pointed out; and we say to you, go, if you please, to your green-house, and point out to your gardener such flowers as you desire, and our word for it, he will cheerfully cut them, unless there is some very special reason, which he will give you, for declining. Arrange the flowers yourself; that part is much more your task than his; and we always give credit to the taste displayed in the arrangement of a bouquet—as much, perhaps, as to the beauty of the flower itself."

SHRUBS UNDER DRIP OF TREES.—It sometimes becomes necessary to plant some shrubs under the shade and drip of trees, in order to make up for the loss of branches, etc. The Daphne mezereum, Mahonia aquifolia, Hypericum percinum, barberries of all sorts, and also privet, are good plants for the purpose. For covering the ground in the summer, in places where the grass fails to succeed, the varieties of vinca, of ribbon grass, Hypericum hirsutum, and Irish ivy are among the many good vines and creepers that may be used.

GRAFTING PELARGONIUMS.—"J. H. R., Iroquois." Pelargoniums may readily be grafted. Side grafting is most generally practiced, and the months of February or March are, perhaps, the best time. You can, if desirable, put two or more kinds upon one stock. After grafting, the plants should be kept shaded and in a moist heat until the grafts have partially or wholly united.

STOCKS FOR STANDARD PEARS.—During the past season our attention, in visiting orchards, has been repeatedly called to the varied strength of pear-trees of the same variety growing in the same soil, and, apparently, under the same cultivation. We have no doubt of this being attributable to the stock. Seedlings, of course, are not all alike in vigor, and as the use of a strong or weak stock has influence on the future tree, we suggest to propagators more care in selecting their stocks for certain varieties—in putting the weakest-growing named sorts on the strongest stocks, and the reverse. Again we will say that some years since we used the Buffum and the Pound pear grafted on pieces of roots as stocks, and found them very successful—our before weak-growing varieties, when worked on these stocks, making fine growths. It is a cheap way of getting stocks, as the root grafts are fit to bud in August the first season.

TURFING NEW GROUNDS.—When turf is to be laid, the ground should be permitted to lay and settle during one or two good rains before the turf is put on, otherwise it will settle unevenly and the turf be full of holes. After the ground has become well settled, rake it over anew, and level again; then roll, and again rake as you lay the turf. Laying the turf irregularly, or rather with intervening spaces of one to two inches wide, and filling with soil, then seeding with grass seed, and rolling all down together, is now practiced pretty generally, and with great success in its results. No beating is given to the sod—the roller doing all the pressure needed to form a good surface.

HOT-BED HEATING MATERIAL.—In looking forward for material to form hot-beds as the spring approaches, do not forget the great value of leaves. When possible so to do, have leaves used as litter in the stable, and the manure mingled with them, all saved in a pile by itself. The wetting of the leaves will soon create fermentation, but so gentle that unless the pile be tramped, we have never known it to burn. Leaves induce a more gentle, regular heat than almost any other material, and retain or continue it longer; besides, we have never had any undue dampness in our frames when a large proportion of our heating came from leaves.

GRIMES' GOLDEN PIPPIN APPLE.—We remind our readers that this is one of the best of winter sorts—a hardy tree, regular annual bearer, good-sized fruit, and high flavor; as good as Rhode Island Greening for cooking, and better for table.

TWELVE GOOD ROSES.—"J. D.," the following list combines colors, vigor of growth, etc., that can but please almost any rose fancier: General Jacqueminot, scarlet crimson; Baron Prevost, rose; Madame Louise Carique, rosy crimson; Gloire de Dijon, orange yellow; Sir J. Paxton, cherry crimson; Celine Forestier, yellow; Jules Margottin, bright crimson; Anna Alexeiff, rose; Duc de Cazes, dark crimson; Duchesse de Medina Cœli, rich purplish crimson; William Griffith, salmon rose, and Maurice Bernardin, vermilion.

WALKS and roads, in the formation of new places, should be just as few as possible, and meet the daily wants of the occupants of house and grounds. Sidewalks and roads, or bold gravel paths, without any definite objects, are objectionable, because the gravel in itself is no attraction, and is only tolerated on account of its utility. In forming a grade, or laying paths among a shrubbery, give the grade such a shape and arrange the paths so as to show as little as possible from the windows of the house.

WHEN the sun shines out clear, very little fire heat should be kept in green-houses, and if the weather will allow, give air carefully.

Early Chickens.—Hatch all the chickens possible in March and April; they will rear with less attention than those hatched later in the season, and will also form larger and stronger birds. There is an old housewife saying that is pretty true:

"Chicks that be hatched
When there's making of hay,
Will never do well,
But will fade away."

Planting Vines Deep.—There are many, even among our best vine-growers, who advocate planting the vine deep—say eight and ten inches of soil above the upper root. Now it is well known that the most of grape roots, when left to themselves, are grown near the surface, and that one of the great objections to vine-growing, without pruning in a border, is that the roots, if not walled in, will soon extend beyond a desired limit, and that walling, to prevent their extension, causes them to seek food below the genial influence of light and air, and thus create disease. If this prove true, as record makes it in the border, why is it that compelling the roots in the field to seek their food deep below light and air can prove a healthy feature in grape culture? We hope some grape man will tell us wherein lies the value of keeping grape roots below the influence of atmosphere, for in all other fruits all growers advocate the reverse.

Hardy Perpetual White Roses.—The following are reported among the best of hardy white perpetuals: Madame Rivers, Madame Alfred de Rougemont, Madame Vidot, Baronne de Maynard, and Madame Freeman.

Cracking of Pears.—A correspondent of the London *Journal of Horticulture* attributes the cracking of pears to want of moisture. He says: "A dry soil and hot sun combined, scorch, dry, harden the tender skin of the fruits; as soon as rain falls the fruit swells, and the dry skin splits in every direction. The rain only develops the mischief which the dry soil and sun have effected." This is but another item in favor of mulching, or a constant stirring of the soil, for the keeping up of a steady, even, moist, and cool condition of the soil.

Roses on the Manetti, or on their Own Roots.—All practical growers concede that better blooms, and more of them, together with stronger growth, can be had from roses grown on manetti roots, than when upon their own. But amateur growers, and those who give little special attention daily to the rose, often lose the entire plant by reason of a sucker from the manetti taking the strength from the bud, or really valuable plant, and such persons should always order their roses only on their own roots. Gardeners, however, and the careful rose-grower, should always have their plants worked on manetti.

Pelargoniums — Tri-Color, Bronze, etc.—Early in January the plants should be re-potted. Give them a cool position and but little water until they have become again well rooted. Gradually bring up the temperature in February, and in March let them be placed where they will grow vigorously, being supplied more liberally with water. As soon as they have made shoots, three to five leaves, cuttings may be made.

Variegated Edgings.—A very pretty edging to a bed of dahlias we saw this last season, formed of the plain and variegated-leaved periwinkles. It was kept clipped about eight inches wide, and was very effective.

American Cherries Abroad.—We notice in the London *Floral World*, under the head of selection of cherries for orchard planting, the editor names three of the varieties originated by Professor Kirtland, of Ohio, viz., Early Prolific, Mammoth, and Tecumseh. The first and last are good, but the Mammoth has, so far as we have known, proved a poor bearer, and hence unworthy.

CELLARS.—Too little thought is given to the care of cellars during winter. Vegetables are often allowed to decay, and, ere the owner knows, some sickness occurs in his family, to him unexplainable, but it may be caused from decaying vegetables in his cellar. The fetid air from such decay is just as bad as the malaria from a swamp, and it should be the care of every one to frequently look over the vegetables in his cellar, and remove all that are in a state of decay, give air, and endeavor to keep the cellar dry and cool.

INSIDE PROTECTION FOR HOT-BED FRAMES.—All gardeners make use of some covering over the glass as a protection to plants during cold nights and days in spring. We have to suggest the nailing of a strip along the sides inside the frame, about four inches below the glass, on which to lay a sash made of one-by-two-inch strips, and covered with oiled canvas. We think it would protect perfectly from frost, and, if obliged to be left on all day, would give a shade to the plants. It is on the principle of the double-sash, but more economical.

SALT FOR ASPARAGUS.—We have no doubt of the value of salt for asparagus, but it may be overdone. The best way is to sow a little at a time, and frequently, say from the 1st of March once in two weeks, until June or July. This will be somewhat after nature's dressing by the salt waves and spray on the sea-shore, where it is a native, as each rain will tend to dissolve the sowing.

INQUIRIES.—Some of our correspondents complain that if they write for us, they are afterward annoyed by inquiries from our readers. We desire to say to our readers that if they will address their inquiries to us, we will try and have them answered.

THE DELAWARE GRAPE is reported as fruiting finely in Canada West.

GRAFTING GRAPES.—Grapes may be grafted during winter, and laid away in sand just as for apple or pear. Use pieces of roots about four inches long; practice whip or tongue grafting as the mode; have two eyes to each cutting or graft, placing one very near the base of the graft when set, and the other so as to come even with the surface when planted out in spring. It is a good way to make sure of any new variety.

IOWA HORTICULTURAL SOCIETY.—We notice this Society has issued a call for a meeting to be held early in January. Iowa is fast growing to be a fruit State, as the exhibit of its products the past year show; and we hope this meeting will be well attended by every Western fruit-grower who possibly can. One hundred dollars in premiums are offered, as follows:

"Best and largest collection of apples, not less than four of each sort	$25 00
Second best	15 00
Third best	10 00
Best single variety of winter cooking apples	5 00
Best single variety of winter eating apples	5 00
Best collection of winter pears	10 00
Best single variety of winter pears	5 00
Best collection of grapes, not less than three clusters of each variety	15 00
Second best collection	5 00
Best single variety, not less than three clusters	5 00

"Committees to be appointed at the time. All members, and those who will then become such, are cordially invited to bring their best fruits, and compete for premiums.

"W. W. BEEBE, Dubuque, Secretary."

We shall be pleased to receive an account of the doings of the meeting.

IN PRUNING apple or pear trees, be careful always to cut away all shoots of last year's growth that appear shriveled, or have not really and perfectly ripened their wood.

SHRUBBERIES should have a top dressing yearly of well-decayed manure, or, better still, old leaf mold or virgin soil from the woods or forest, where such is accessible. There is no better time to do this than some fine open day in the winter.

Too Many Classes of Plants.—It is quite a too common failing with amateurs to gather into one house too many classes of plants, without thought of the natural habit and periods of growth they seek to group together, and to grow successfully plants from the tropics and from alpine regions. The result, as a rule, is, that one or the other must and does suffer. There is a variety sufficient to fill any one house, which have alike natural orders and temperatures of growth, and it is advisable always to confine the collection to them.

Buying Grapevines.—In buying grapevines, make sure, if possible, of one thing, viz., that you buy a vine which fully and perfectly ripened its wood at the close of the season's growth. If the wood of a vine, by reason of late growth, does not ripen, the roots can not. The vine, if not removed, will probably grow the following season; but if taken up and exposed to the air in transplanting, nine times out of ten it will either die outright, or make so feeble a growth as to be of no value. We have tried this to our satisfaction.

Disbudding Potatoes.—A friend of ours has a strong belief in good seed, of whatever kind, and of the profit of good, sensible cultivation. Accordingly, he plants whole potatoes, and all of a full medium size, designed, as he says, to supply well-ripened seed—he holding that the extra overgrown tubes, as well as the small ones, are imperfect. As they grow, at the time the tops are four or five inches high, he goes over them, taking away from each hill all but one strong vigorous shoot. Our friend grows good potatoes.

Work for Bad Weather.—It is well always to suit the work to the weather. Few can endure to work out in rain or snow, and, if thought be given, there can always be found plenty to do inside, when it is unpleasant or stormy out of doors—work also that will save many an hour when the hurry and drive of spring comes; preparing label sticks and stakes, mending lights, making boxes for melons, etc., cleaning crocks, painting tools, and a thousand other things, which, if done, will often help a man to drive his work, instead of the work driving him.

Geraniums. — It is not a good plan to wet the roots of geraniums taken up and hung in a dark cellar for winter's keeping. About the middle of March, if they are cut back pretty closely, root and branch, and potted in a light, sharp, sandy loam, and, for want of a frame, placed in the window of the living-room, and given but little water, they will start and make nice plants for out-door planting in May.

In the Green-house.—It is policy to look over the plants regularly, to see that none are in want of water; and when giving water, be careful that it is tepid warm. On clear, sunny days, when the sun carries the temperature up above 60°, we like to give air, but always close the ventilator in time to retain for the night as much of solar heat as possible. It is better for the plants, besides being economical. All the cacti should be kept in the warmest and dryest part of the house. If the green fly get numerous, fumigate, or if only on a few plants, dust with snuff. It is a good time to prune now, while plants are comparatively dormant.

Root Pruning Grapevines.—We have, during the past year, made some comments respecting the advantage of root pruning grapevines, much as pears are done, with a view to check redundancy of growth. We hope some of our readers will try it.

A Four-Legged Fowl.—At an exhibition of poultry in Lancashire, England, the past autumn, a hen was shown with four legs—three of which were used for locomotion.

BEDDING ANNUALS.—The collection of annual flowers now embraces some of the most beautiful in form and color, and many people, in their novelty and the cheapness with which the seeds are now obtained, prefer to grow them rather than risk the loss and chances of plants transported by express companies, often received in bad order, and again with some of the very choicest stolen out of the case. No redemption for losses is ever made, except by suit—the plea always being, "It was not lost on our end of the line," and the receiver prefers to pocket his loss rather than hunt the matter up and sue a company at a hundred or more miles distant from home. Therefore it is that annuals will continue to be grown, and especially by all who are not located near a commercial green-house. With those, however, who can command bedding plants within a reasonable distance, there is no fear of annuals ever taking their place. But, as we have said, annuals now embrace beauty in form and color, and, besides, they bloom freely, when many of our bedding-out plants have exhausted themselves of their early first blooms, and are comparatively quiet thereto; therefore annuals are, besides their cheapness of procuring, desirable to have, even among large collections, and within reach of commercial gardens. The great error, however, with most who grow them, is that, as a rule, they are so distributed in the grounds as to produce little or no effect. Scattered here and there, scarcely within speaking distance, are little clusters of annual blooms, leaving the balance of the bed or border, or supplied with some variety that, recommended by the seedsman, has novelty, but no bloom or beauty in its composition. Massing of annuals is essential to an appreciation of their beauty, and especially should the growers confine themselves to those well known as free growers and bloomers. Plant no new variety as a mass plant, or for conspicuousness of bloom, on trust of the handbill or circular advertising it. Place every such novelty one year in the reserve or back border. Use such annuals as you know to be good bloomers in August and September, freely among such of the bedding-out plants as at that time fail comparatively in giving abundantly of blossoms. Take no estimates for your guide of the heights of plants, as published, unless you know in what soil and under what kind of treatment they were grown. For filling large beds or borders, in positions of second-rate importance, we would use freely of annuals, but always intermingled with bedding-out plants of a like habit in growth or flower to make up the flower bouquet of arrangement as a whole when in bloom, and especially would we study foliage, that our bed or border should in its green lines always present shades and heights to please the eye of taste.

GARDEN SOIL will always pay for trenching deep, even if done with the spade; but remember to keep all the time the good or surface soil at the top, and not bury it at the bottom, as we have seen done by some gardeners. If the expense of trenching the whole garden this year be too much for the purse, then select one portion for this season's improvement, and another for next year. Clay soils are especially benefited by trenching, and while such soils are not specially adapted to early crops, the trenching will be found a great aid in the aeration it gives toward earliness, and for a dry, hot summer a clay soil trenched is superior to any of lighter texture.

NEW SEEDLING PEARS.—At the exhibition of the Pomological Congress of France, in September last, M. Grégoire-Nelis exhibited one hundred and twenty unnamed seedling pears and forty-eight new-named varieties. The unnamed seedlings are spoken of by the London *Journal of Horticulture* as "having nothing attractive among them," while the named ones are recorded as a list without description.

Agricultural Illustrations.—In the whole range of agricultural and horticultural esthetics we candidly think nothing has a more pleasing and permanent effect than illustrations. It is almost as good to look upon the picture of a lovely fruit or handsome tree as to behold the object itself in natural reality.

In the management of the various agricultural and horticultural journals of the day, the editors have appreciated the value of illustrations in intensifying the effect of their literary matter, and money is freely spent in the production of anything of this nature possessing interest and attraction.

An agricultural paper which from beginning to end is plain, bare, unadorned with some little cut of beauty or use, is like a pasture drear and forlorn. But just throw in a beautiful engraving of a fine fruit, or a sketch of a flower, or enliven its pages with the drawing of a house, and behold the interest which the reader immediately takes! How eagerly he catches the paper and looks on the picture with admiration! From picture he turns to explanation, and lo! how indelibly the remembrance is stamped on his mind and memory!

Hence it is that we see agricultural papers using illustrations more and more frequently. A description of a new fruit is too often as dull as a dark, cloudy day, unless a sketch is given to throw it out into a full and tangible relief.

A new shrub may be enthusiastically noticed, but its effect is greatly increased if the picture of its form and appearance accompanies it.

There are a few publications of the present day which are especiately noteworthy for the admirable display of this most agreeable entertainment to readers.

With what a peculiar pleasure does the possessor of a set of The Horticulturist take each volume carefully down from the wide library shelf and glance over the pages, rich with horticultural lore, and fraught with so many delightful memories of Downing, its founder, and of the various editors and contributors it has so well and prominently possessed! His eyes first turn to the goodly illustrations, which come thickly thronging along. Now it is a shrub; now it is a cottage; now a fruit; now a view of some suburban villa; and, as he approaches a still later date, they become more and more frequent, and of a more elaborate and tasteful execution.

Since its possession by the Messrs. Woodward, large sums of money have been liberally spent in the production of engravings of the most tasteful nature, and no stint is made as to number or excellence. What has been the result? A love of horticulture has been fostered and stimulated from year to year, to better and better results; a desire for more tasteful cottage building has been kept up, and designs have followed one after another in quick succession, and found a ready adoption. Country Homes and Rural Art, the collection of many of these designs, are the most popular architectural books in the country, and together have reached sales of over 10,000; while regular editions are still constantly issued without any flagging of the popular interest.—*N. Y. Independent.*

Three Hundred and Fifty Varieties of Pears.—At the meeting of the Pomological Congress in France, September 19, 1867, one exhibitor had upon the tables three hundred and fifty varieties, or, rather, dishes, of pears—some fifteen or more of them being pronounced synonyms of others.

Pits should be watched, and air given when the weather will admit, in order to prevent damp and mold.

A Word about the Lawn.—There is always beauty and repose in a well-kept closely-shaven lawn; but a lawn with scattering tufts of weeds or foul grasses, and the grass from six to eight inches high, presents no idea of refinement, but, to use a common vulgar phrase, looks as if the owner "wanted to be somebody, but could not

afford it." It is better, therefore, for your own eye, as well as for your credit in the judgment of the world, to have a small lawn, and have it kept in perfect order, than to have an acre or more loosely managed. If there are beds of flowers in a well-kept lawn, they can be visited at any time, without fear of disturbing the polish on boots or wetting the kid of the most delicate slipper; but if it be badly cared for, woe to the boot or shoe less than a "stogy" that ventures upon it any hour before ten A.M. or after four P.M.

A well-kept lawn is an expensive feature—expensive in its first cost, if well prepared, and in its after-keeping. If, therefore, you are about to plan your grounds, do so with a knowledge of your means for keeping them, and take no more into the lawn than you well know you can keep as it should be.

POULTRY.—We notice that the poultry fever is again rising, and we rejoice at it. Few appreciate the great amount of food produced by the keeping and raising of poultry. Eggs and chickens are almost a necessity in sickness, and always good to take in health. At this time the popular tone seems to run between Brahmas and Dorkings as the two leading breeds. The latter have stood the test of years under all conditions, and certainly are a breed combining, perhaps, as many, if not more, good qualities as any other. Brahmas for town gardens are desirable, as in winter they are good layers, and they do not ramble, or seem to desire to do so, as much as some other breeds. To any one who desires fowls for their eggs alone, the Bolton Greys we regard as one of the most valuable breeds—equally as good layers as the Poland, and much more hardy. As a fancy bird, glossily beautiful, the Black Spanish are unsurpassed.

We have bred at times nearly every variety, and our experience is in favor of the Colored Dorkings as a one pure breed; but we regard the cross of Brahmas with the Dorking cock as producing the hardiest, healthiest, best formed, and best layers of all. The cross, however, must be maintained each year, breeding only from the pure Brahma hen and Dorking cock.

BOOK NOTICES.

HYATT'S HAND-BOOK OF GRAPE CULTURE; or, Why, Where, When, and How to Plant and Cultivate a Vineyard, Manufacture Wines, etc. Especially adapted to the State of California. By T. Hart Hyatt. H. H. Bancroft & Co., San Francisco, Cal. 12mo, 279 pp.

Books devoted to grape culture are still in fashion. The Eastern States have been pretty well supplied with the home-made article in the past half dozen years, and now California comes forward to help complete the list.

California is without doubt one of the very best wine countries known, and Mr. Hyatt's book will be read with interest by every one who has any inclination to go into the business of grape growing.

The volume before us is a very handsome one, of nearly three hundred pages, filled with more or less valuable matter gathered from various sources. There is no doubt but that it will make many of our vineyardists yearn for a California soil and climate, and perhaps some may be tempted to migrate to a land where the grape, it is said, never fails to produce a bountiful crop. We fear, however, that Mr. Hyatt has painted the subject in too brilliant colors, and few will ever realize the result which he promises to those who follow his advice.

We are told that no insect or disease is known to affect the grape in California, consequently they are always sure of a crop. This statement may be true at the present time, but that is no proof that it will always be the case. Other sections of the country have at one time been exempt from such pests, but they are plentiful now, and in many instances the culture of the grape has been abandoned in consequence.

Poultry Department.

CONDUCTED BY A. M. HALSTED.

With this number we present to our readers a "*Poultry Department*," believing that in so doing we are meeting the wants of many who, with a few acres, or even a few rods of ground, devoted mainly to horticultural purposes, have still room and time for a few fowls; and as the two work most happily and pleasantly together, we feel confident that the majority of our readers will hail with pleasure this addition to our pages.

We purpose to make these columns valuable to our readers, not only as a record of the "*latest poultry intelligence*," but to give full descriptions of the newest and finest breeds of poultry brought before the public; also of the older and most popular varieties, fully illustrated with cuts taken from life, expressly for our pages. We shall also set aside a limited space for queries and answers. Diseases of the feathered tribe will be discussed, and remedies given. Plans for henneries and yards; feeding and drinking fountains—in fact, everything connected with the keeping and rearing of fowls will be offered in turn to our patrons.

The interest in poultry seems to have taken a fresh start, and the late exhibition of fowls in this city has given it an additional impetus. Gentlemen of means and leisure are eagerly discussing the claims of the different varieties to public favor, and the best method of constructing poultry houses and yards; and in view of the new importance given to these matters, we are especially warranted in allotting some time and space to the interests of the feathered race. We would therefore solicit our readers—those who have devoted any time to rearing fowls, as well as those who are yet novices in such matters, to communicate such intelligence as they can; also the result of any experiments; to answer such inquiries as they may be able; to call the attention of their neighbors to the new department, and aid us practically, as well as with their good wishes, in making it a success.

THE EXHIBITION OF THE AMERICAN POULTRY SOCIETY,

which took place in this city on the 3d, 4th, 5th, 6th, and 7th of December, we are assured, was a perfect success. The show of fowls was very large and of unusual excellence—in fact, so far as quality, it was the finest ever held in this country. Of the older and well-known varieties, the Brahmas were the best represented. Some exceedingly fine specimens of Black Spanish, White Leghorn, and Grey Dorkings were shown. And of White Dorkings one coop, entry No. —, seemed *par excellence* the finest there; they were indeed magnificent, and we think, as the owner claimed, the best on this continent. The new French varieties were not largely represented, but made up in quality what they lacked in numbers. One coop of Crevecœurs, splendid birds, marked $250, were all that any one could desire. In games, the show was large and fine. The Black Breasted Reds were most prominent, and gave the judges some little trouble in making their awards, owing to the unusual excellence of all the specimens shown. Of Derbys, there was but one entry, which were imported birds. Quite a number of other varieties of games were shown—the Stonewall, White Georgian, and Brown Reds being particularly noticeable. The Bantam family were well represented—some beautiful specimens of Golden and

Silver Sebrights, Black African, and game Bantams being exhibited, as also some White and Nagasaki Bantams. In ducks there was a very fine assortment, and the birds did credit to their breeders and owners. The Aylesburys and Rouens were unusually large and fine, while the Cayugas, Platas, Wood, and Brazilian were well worthy of notice. Some very fine coops of China and African geese, and one superb pair of Embdens, attracted a great deal of attention. In turkeys, the show was small, but we noticed some very fine Bronze and White. The display of pigeons was splendid. Some Roman seemed almost to have outgrown their pigeonhood; and the Pouters, Ruffs, Fantails, and Carriers would bring joy to any pigeon-hearted man.

Had we space, we would publish the awards, but as we can not, we must refer the reader to the Secretary of the Society. (See advertisement in November number.) The past show was regarded by the Association more as an experiment than as a certain success; and although not so successful pecuniarily as it would have been in a more accessible location, still demonstrates that the Society can gather a collection of fowls surpassed by no other section on this continent.

The arrangements were far from perfect; but much allowance must be made, in consideration that this was the first, and that future exhibitions will doubtless profit by the lessons and hints here learned. The room was very poorly lighted; but we are informed that it was the only one procurable at the late day when the Society definitely resolved to have a show. One feature of the arrangements was especially commendable—the entering the coops by numbers instead of in the exhibitor's name. By this rule no coop was allowed to have the exhibitor's name appear on it until after the judges had made their rounds; and if a name appeared, it was ruled out from competition—thus securing an impartial decision, as it was impossible to show favors, not knowing to whom they would be shown. Taken altogether, it was, as we heard a visitor express himself, "the finest collection of fowls ever brought together on this continent in the poorest room ever used for an exhibition of that kind." There were coops enough to fill a room double the size; and we hope at future shows the room will be better suited therefor. We understand that the Society intend to have semi-yearly exhibitions—spring and fall—and cordially wish them success.

IMPROVED VARIETIES VS. COMMON FOWLS.

Does it ever strike the farmer, or any one who keeps fowls either for profit or pleasure, that there is a great advantage in keeping improved breeds of poultry over the common barnyard fowls? Hardly a farmer but will acknowledge that it costs no more to keep a good cow than a poor one; and that the improved thoroughbreds are better than the ordinary cow, and that therefore it is more profitable to keep pure stock than mixed. But how many apply the same reasoning to the poultry yard? The fifty or more fowls on the majority of farms could profitably be replaced by twenty of some improved variety—in fact, twenty pure-bred fowls, well kept and cared for, will produce more eggs in the year, and as many chickens, as one hundred common fowls allowed to run as they please and shift for themselves.

Common fowls will average 50 eggs each per year, while many of the improved breeds will average 150 to 200, and some few varieties 250 to 300.

I do not think any guide can be given as to the number of fowls any one should keep; for while one could profitably keep 100 to 200, another would do far better with 20, or even a less number. My advice would be, only keep as many as you can keep well. I am aware that many think it impossible to keep large numbers of fowls together and have them thrive. This is a mistaken idea, and arises from the fact, that where large yards of fowls are, or

have been kept, they have not received proper care and attention, and have, therefore, ceased to be profitable.

One hundred fowls are not too many for a single yard, and even double that number may be kept, if the same care and attention are given them that would be paid to a dozen or twenty. We are too apt, when we have so many, to provide insufficiently—to be careless about their housing and keeping their quarters clean. It seems but little trouble to care for twenty fowls, and takes only a few minutes to see that they are all safely housed in cold weather; but when one hundred or more have to be cared for, we are very apt to begrudge the labor, thinking "it don't pay to spend so much time on a lot of chickens." We think there is less time and labor spent on poultry than on any other kind of stock; and we do not know of anything that will better repay the care and attention given them. I believe there is double the profit on $500 invested in poultry (improved varieties) than an equal investment in any other kind of farm stock. At the prices paid for eggs in the New York market the past three or four years, a hen will pay for herself and keeping within the year, and all her progeny is clear gain, over and above the first outlay. We do not mean to say that everything will be paid for, but the first cost of the fowl and her feeding and the care bestowed on her. But in order to secure this result, good fowl houses and yards must be provided, skillful care and treatment given, and improved varieties of fowls kept.

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Onions and Poultry.—Scarcely too much can be said in praise of onions for fowls. They seem to be a preventive and remedy for various diseases to which domestic fowls are liable. Having frequently tested their excellences, we can speak understandingly. For gapes and inflammation of the throat, eyes, and head, onions are almost a specific. We would therefore recommend giving fowls, and especially young chickens, as many as they will eat, as often as twice or three times a week. They should be finely chopped. A small addition of corn meal is an improvement.—*Genesee Farmer.*

The Hen and Duck as Egg Producers.—A paper has been received by the Paris Academy of Science, from M. Comaille, on the comparative value of the hen and duck as egg producers. His observations were limited to three hens and three ducks, all fine animals, hatched at the same time in the month of February. During the following autumn the ducks laid two hundred and twenty-five eggs; they re-commenced laying in February, and continued to do so until the middle of August. The hens laid no eggs during the autumn, but began in January, and left off about the middle of August. The totals of each at the end of that time were: the hens, two hundred and fifty-seven eggs; the ducks, six hundred and seventeen. M. Comaille next examined the nutritive value of each kind of egg, and found them nearly equal in that respect.

Value of Poultry Manure.—There is no manure made on a farm so valuable as that of poultry. One ounce of it properly diffused in a half pound of soil, and placed in a hill of corn when planted, will be as powerful a fertilizer as ten times its weight in barnyard manure. A foreign writer says: In France, as well as in our own country, most eminent chemists have proved, by analysis, that poultry manure is a most valuable fertilizer, and yet, for want of proper system in housing poultry, it has not been rendered available to rura. economy. The celebrated Vanquelin says that when the value of manures is considered in relation to the amount of azote they contain, the poultry manure is one of the most active stimulants; and when, as a means of comparison, the following manures are taken in parts of 1,000, it will be found that—

Horse manure contains.....	4.0	parts of	azote.
Guano, as imported.....	40.7	do.	do.
Guano, sifted of vegetables, etc...	53.9	do.	do.
Poultry manure.....	83.0	do.	do.